APPENDIX A. HEALTH AND SAFETY PLAN

Port of Seattle

Terminal 117 Upland Area

QUALITY ASSURANCE PROJECT PLAN, APPENDIX A: HEALTH AND SAFETY PLAN

For submittal to:

US Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, WA 98101

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Acronyms

CPR	cardiopulmonary resuscitation
EPA	US Environmental Protection Agency
FC	field coordinator
HSM	health and safety manager
HSO	health and safety officer
HSP	health and safety plan
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PPE	personal protective equipment
QAPP	quality assurance project plan

A.1.0 Introduction

This site-specific health and safety plan (HSP) describes safe working practices for conducting field activities at potentially hazardous sites and for handling potentially hazardous materials or waste products. This HSP covers elements as specified in 29 CFR 1910§120.

This HSP addresses all activities associated with the collection and handling of soil samples in the Terminal 117 (T-117) Upland Area. Drilling work will be performed by a subcontractor. The subcontractor will be responsible for providing an addendum to this HSP that addresses safety issues related to the operation of the drill rig. During site work, this HSP will be implemented by the field coordinator (FC), who is also the designated site health and safety officer (HSO), in cooperation with the corporate health and safety manager (HSM) and the project manager.

All personnel involved in fieldwork on this project are required to comply with this HSP. This HSP describes the types of activities to be performed, knowledge of the physical characteristics of the site, and application of preliminary chemical data from previous investigations at the site. The HSP may be revised based on new information and/or changed conditions during site activities. Revisions will be documented in the project records.

A.2.0 Site Description and Project Scope

The sampling area is in the Upland Area of T-117, which is located at 8700 Dallas Avenue S in the South Park neighborhood of Seattle, Washington.

The specific field activities that will be performed are:

- Collection of soil samples (borings) using a hollow-stem auger drill rig
- Sample handling, processing, and shipping

The quality assurance project plan (QAPP) to which this HSP is appended provides complete details of the sampling program. Sampling tasks are scheduled to be performed during January and February, 2006.

A.3.0 Health and Safety Personnel

Key health and safety personnel and their responsibilities are described below. These individuals are responsible for the implementation of this HSP.

Windward project coordinator — The Windward project coordinator has overall responsibility for the successful outcome of the project. The Windward project coordinator will ensure that adequate resources and budget are provided for the health and safety staff to carry out their responsibilities during fieldwork. The

Windward project coordinator, in consultation with the HSM, makes final decisions concerning the implementation of the HSP. Should an emergency occur, the Windward project coordinator and/or the FC will notify the client.

Field coordinator/health and safety officer — Given the limited scope of the fieldwork for this project, the FC and the HSO will be the same person. The FC/HSO will direct field sampling activities, coordinate the technical and health and safety components of the field program and ensure that work is performed according to the QAPP. The FC/HSO will implement this HSP at the project site and will be responsible for all health and safety activities and the delegation of duties in the field, if appropriate. The FC/HSO also has stop-work authority, to be used if there is an imminent safety hazard or potentially dangerous situation. The FC/HSO or designee will be present during all sampling operations.

Corporate health and safety manager — The HSM has overall responsibility for the preparation, approval, and revision of this HSP. The HSM will not necessarily be present during fieldwork but will be readily available, if required, for consultation regarding health and safety issues during fieldwork.

Field personnel — All field personnel must be familiar and comply with the guidance and procedures in this HSP. Field personnel also have the responsibility to immediately report any potentially unsafe or hazardous conditions to the FC/HSO.

A.4.0 Potential Hazards and Control Measures

This section covers potential physical and chemical hazards that may be associated with the proposed project activities and presents control measures for addressing these hazards. The activity hazard analysis, Section A.4.3, lists the potential hazards associated with each site activity and the recommended site control to be used to minimize each potential hazard.

A.4.1 PHYSICAL HAZARDS

For this project, it is anticipated that physical hazards will present a greater risk of injury than chemical hazards.

A.4.1.1 Slips, trips, and falls

As with all fieldwork sites, caution should be exercised to prevent slipping on slick surfaces. Slipping can be minimized by wearing boots with good treads and soles made of a material that does not become overly slippery when wet.

Tripping is always a hazard in a cluttered work area. Personnel will keep work areas as free as possible from items that interfere with walking.

When working on top of the bank there is a chance of falling over the edge. Falls may be avoided by working as far from exposed edges as possible, by erecting railings, and by using fall protection when working on elevated platforms.

A.4.1.2 Drilling equipment

Soil samples will be obtained using a hollow-stem auger from a drill rig. Before sampling activities begin, all field personnel will attend a training session that will discuss safety issues related to the drilling equipment.

A.4.1.3 Manual lifting

Equipment and samples must be lifted and carried. Improper lifting can result in back strain. During any manual handling tasks, field personnel should lift with the load supported by their legs and not their backs. For heavy loads, an adequate number of people should be used or, if possible, a mechanical lifting/handling device should be employed.

A.4.1.4 Heat stress, hypothermia, frostbite

Sampling operations are not anticipated to result in conditions that might result in heat stress, hypothermia, or frostbite.

A.4.1.5 Weather

In general, field personnel will be equipped for the normal range of weather conditions. The FC/HSO will be aware of current weather conditions and their hazard potential. Some conditions that might force work stoppage are electrical storms, high winds, or periods of intense rainfall.

A.4.2 CHEMICAL HAZARDS

Previous investigations have shown that some chemical substances are present in the sampling area at higher-than-background concentrations. For the purpose of discussing potential exposure to substances in the soil, the chemicals of concern are polychlorinated biphenyls (PCBs), petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), and metals.

A.4.2.1 Chemicals of concern

Polychlorinated biphenyls — Prolonged skin contact with PCBs may cause acne-like symptoms known as chloracne. Acute and chronic exposure can damage the liver and cause symptoms of edema, jaundice, anorexia, nausea, abdominal pain, and fatigue. PCBs are suspected human carcinogens. Irritation to eyes, nose, and throat may also occur. Skin absorption may substantially contribute to the uptake of PCBs. Momentary skin contact allows little, if any, opportunity for passage of any of the compounds into the body. Field procedures require the immediate washing of substances from exposed skin. Ingestion or inhalation are not exposure pathways of concern because large amounts of media would need to be ingested for any detrimental effects to occur, and PCBs are not expected to vaporize or become airborne.

Petroleum hydrocarbons and PAHs — Exposure to petroleum hydrocarbons and PAHs may occur via inhalation, ingestion, or skin contact. Inhalation, the most important

human health exposure pathway for this group of chemicals, is not expected to occur at this site because the PAHs are contained in the asphalt. Animal studies have also shown that PAHs can have harmful effects on skin, body fluids, and the ability to fight disease after both short- and long-term exposure. But these effects have not been documented in humans. Some PAHs are suspected human carcinogens. However, large amounts of media would need to be ingested for any detrimental effects to occur. Momentary skin contact allows little, if any, opportunity for the passage of any of the compounds into the body. Field procedures require the immediate washing of substances from exposed skin.

Metals — Exposure to metals may occur via inhalation, ingestion, or skin contact. None of these exposure pathways is likely. Metal fumes or metal-contaminated dust will not be encountered during field sampling or sample handling activities. Large amounts of media would need to be ingested for any detrimental effects to occur. Momentary skin contact allows little, if any, opportunity for passage of any of the metals into the body. Field procedures require the immediate washing of substances from exposed skin.

A.4.2.2 Exposure pathways

Potential exposure pathways include inhalation, skin contact, and ingestion. Exposure will be minimized by using safe work practices and by wearing the appropriate personal protective equipment (PPE). PPE requirements are presented in Section A.6.

Inhalation — Potential exposure is possible via inhalation of dust particles generated during soil sampling. If this occurs, dust masks will be worn to minimize the inhalation of dust. During soil handling activities, the risk of inhalation exposure is reduced because work is performed in open-air conditions.

Skin contact — Dermal exposure to hazardous substances associated with soil or equipment decontamination will be controlled by the use of PPE and by adherence to detailed sampling and decontamination procedures.

Ingestion — Ingestion is not considered to be a primary route of exposure for this project. Accidental ingestion of soil is possible, but proper handling should prevent splattering, which will ensure that sample droplets do not become airborne.

A.4.3 POTENTIAL ACTIVITY HAZARDS

Potential activity hazards and recommended controls are presented in Table A-1.

Table A-1. Potential activity hazards

ACTIVITY	HAZARD	CONTROL
Soil boring with drill rig[a]	Skin contact with contaminated soils or liquids	Wear modified Level D PPE.
	Injury from equipment falling or swinging	Wear a hard hat at all times and be aware of position and surroundings when equipment is in operation.

ACTIVITY	HAZARD	CONTROL
	Injury from moving parts on sampling equipment	Avoid or use caution when adjusting moving parts on sampling equipment. Wear gloves.
	Noise from sampling equipment	Wear hearing protection, if necessary.
	Fire	Mop up any flammable materials and dispose of absorbent. No smoking or flame sources near operating equipment. Evacuate the area according to procedures outlined in the training session.
Sample handling, packaging, and shipping	Back strain	Use appropriate lifting technique when handling equipment and/or filled sample coolers, or seek help.
	Skin contact with contaminated media	Wear modified Level D PPE.
Equipment decontamination	Inhalation of or eye contact with airborne mists or vapors	Wear safety glasses. Perform decontamination activities outdoors or in a well-ventilated area. Stay upwind when spray-rinsing equipment. Avoid splashing water when washing or rinsing.
	Skin contact with contaminated materials	Wear modified Level D PPE.
	Ingestion of contaminated materials	Decontaminate clothing and skin prior to eating, drinking, smoking, or other hand-to-mouth activities following the decontamination procedures for personnel decontamination.

[a] Drilling work will be performed by a subcontractor. The subcontractor will be responsible for providing an addendum to this HSP that addresses safety issues related to the operation of the drill rig.

A.5.0 Work Areas

During sampling and sample handling activities, work areas will be established to identify where sample collection and processing are actively occurring. The intent of the zone is to limit the migration of sample material out of the zone and to restrict access to active work areas by defining work area boundaries.

A.5.1 WORK AREAS

The work area will encompass the area where sample collection and handling activities are performed. The FC/HSO will delineate the boundaries of a particular work area if physical barriers are not practical. Only persons with appropriate training, PPE, and authorization from the FC/HSO will be allowed to enter the work area while work is in progress.

A.5.2 DECONTAMINATION STATION

A decontamination station will be set up, and personnel will clean soiled boots or PPE prior to leaving the work area. The station will have the buckets, brushes, soapy water, rinse water, or wipes necessary to clean boots, PPE, or other equipment leaving the work area. Plastic bags will be provided for expendable and disposable materials. If the location does not allow for the establishment of a decontamination station, the FC/HSO will provide alternatives to prevent the spread of contamination.

A.5.3 ACCESS CONTROL

Security and the control of access to the sampling areas will be the responsibility of the FC/HSO. Property access will be granted only to essential project personnel and authorized visitors. Any security or access control problems will be reported to the client or appropriate authorities.

A.6.0 Safe Work Practices

Implementing safe work practices will minimize the risk of exposure or accidents at the work site. The general safety rules to be followed at the site are as follows:

- Do not climb over or under obstacles of questionable stability.
- Do not eat, drink, smoke, or perform other hand-to-mouth activities in the work area.
- Work only in well-lighted spaces.
- Make eye contact with equipment operators when moving within the range of their equipment.
- Be aware of the movement of equipment when not in the operator's range of vision.
- Get immediate first aid for all cuts, scratches, abrasions, or other minor injuries.
- Use the established sampling and decontamination procedures.
- Always use the buddy system.
- Be alert to your own and other workers' physical conditions.
- Report all accidents, no matter how minor, to the FC/HSO.
- Do not do anything dangerous or unwise even if ordered to do so by a supervisor.

A.7.0 Personal Protective Equipment and Safety Equipment

Appropriate PPE will be worn as protection against potential hazards. Prior to donning PPE, field personnel will inspect their PPE for any defects that might render the equipment ineffective.

Fieldwork will be conducted in Level D or modified Level D PPE. Situations requiring PPE beyond modified Level D are not anticipated. Should the FC/HSO determine that PPE beyond modified Level D is necessary, the HSM will be notified and an alternative will be selected.

A.7.1 LEVEL D PERSONAL PROTECTIVE EQUIPMENT

Workers performing general activities in which skin contact with contaminated materials is unlikely will wear Level D PPE. Level D PPE includes the following:

- Cotton overalls or lab coats
- Chemical-resistant steel-toed boots
- Chemical-resistant gloves
- Safety glasses
- Hard hat (when overhead hazard exists)
- Hearing protection (when loud and prolonged noise is present)

A.7.2 MODIFIED LEVEL D PERSONAL PROTECTIVE EQUIPMENT

Workers performing activities where skin contact with contaminated materials is possible and in which inhalation risks are not expected will be required to wear an impermeable outer suit. The type of outerwear will be chosen according to the types of chemical contaminants that might be encountered. Modified Level D PPE includes the following:

- Impermeable outer garb such as rain gear
- Chemical-resistant steel-toed boots
- Chemical-resistant outer gloves
- Safety glasses (or face shield, if significant splash hazard exists)
- Hard hat (when overhead hazard exists)

A.7.3 SAFETY EQUIPMENT

In addition to PPE, basic emergency and first aid equipment will also be provided. Equipment for the field team will include:

- A copy of this HSP
- First aid kit adequate for the number of personnel working onsite
- Emergency eyewash kit
- Fire extinguisher

The FC/HSO will ensure that the safety equipment is available. Equipment will be checked daily to ensure its readiness for use.

A.8.0 Monitoring Procedures for Site Activities

A monitoring program that addresses the potential site hazards will be maintained. For this project, air, dust, and noise monitoring will not be necessary. The sampled media will be wet and will not pose a dust hazard. No volatile organic compounds have been identified among the expected contaminants, and prolonged exposure to equipment that emits high-amplitude (> 85 dBA) noise is not expected. For this project, the monitoring program will consist of all workers monitoring themselves and their co-workers for signs that might indicate physical stress or illness.

All personnel will be instructed to look for and inform each other of any deleterious changes in their physical or mental conditions during the performance of all field activities. Examples of such changes are as follows:

- Headaches
- Dizziness
- Nausea
- Symptoms of heat stress
- Blurred vision
- Cramps
- Irritation of eyes, skin, or respiratory system
- Changes in complexion or skin color
- Changes in apparent motor coordination
- Increased frequency of minor mistakes
- Excessive salivation or changes in papillary response
- Changes in speech ability or speech pattern
- Shivering
- Blue lips or fingernails

If any of these conditions develop, work will be halted immediately and the affected person(s) evaluated. If further assistance is needed, personnel at the local hospital will be notified, and an ambulance will be summoned if the condition is thought to be serious. If the condition is the direct result of sample collection or handling activities, procedures will be modified to address the problem.

A.9.0 Decontamination

Decontamination is necessary to prevent the migration of contaminants from the work area(s) into the surrounding environment and to minimize the risk of exposure of personnel to contaminated materials that might adhere to PPE. The following supplies will be available to perform decontamination activities:

- Wash buckets
- Rinse buckets
- Long-handled scrub brushes
- Clean water sprayers
- Paper towels
- Plastic garbage bags
- Alconox® or similar decontamination solution

A.9.1 MINIMIZING CONTAMINATION

The first step in addressing contamination is to prevent or minimize exposure to existing contaminated materials and the dispersion of those materials. During field activities, the FC/HSO will enforce the following procedures designed to minimize contamination.

Contamination of personnel

- Do not walk through areas of obvious or known contamination.
- Do not directly handle, touch, or smell contaminated materials.
- Ensure that PPE has no cuts or tears prior to use.
- Fasten all closures on outer clothing, covering with tape if necessary.
- Protect and cover any skin injuries.
- Stay upwind of airborne dusts and vapors.
- Do not eat, drink, chew tobacco, or smoke in work areas.

Contamination of sampling equipment

- Exercise care to avoid getting sampled media on the outside of sample containers.
- If necessary, bag sample containers before filling with sampled media.
- Place clean equipment on a plastic sheet to avoid direct contact with contaminated media.
- Keep contaminated equipment and tools separate from clean equipment and tools.

- Clean up spilled material immediately to avoid tracking into clean areas.

A.9.2 PERSONNEL DECONTAMINATION

The FC/HSO will ensure that all field personnel are familiar with personnel decontamination procedures. Field personnel will perform decontamination procedures, as appropriate, before eating lunch, taking a break, and leaving the project site. Decontamination procedures are as follows:

1. Rinse off outer suit if it is heavily soiled.
2. Wash and rinse outer gloves and boots in portable buckets.
3. Remove outer gloves; inspect and discard if damaged.
4. Wash hands if taking a break.
5. Don necessary PPE before returning to work.

Always dispose of soiled, expendable PPE in the trash before leaving for the day.

A.9.3 EQUIPMENT DECONTAMINATION

All soil sampling and homogenizing equipment, which includes the mixing bowl and stainless steel implements, will be decontaminated (based on QAPP specifications, between locations or samples following the procedures outlined below.

1. Rinse equipment with site water and wash with scrub brush until free of soil.
2. Wash with phosphate-free detergent.
3. Rinse with site water.
4. Rinse with distilled water.

Any sampling equipment that cannot be cleaned to the satisfaction of the FC will not be used for any further sampling activity.

Acid or solvent washes will not be used in the field because of safety considerations and problems associated with rinsate disposal and sample integrity.

A.10.0 Disposal of Contaminated Materials

Contaminated materials generated during field activities include PPE, decontamination fluids, and excess sample material. These contaminated materials will be disposed of as an integral part of the project.

A.10.1 PERSONAL PROTECTIVE EQUIPMENT

Gross surface contamination will be removed from PPE. All disposable sampling materials and PPE, such as disposable coveralls, gloves, and paper towels used in the

sample processing, will be placed in heavyweight garbage bags. Filled garbage bags will be placed in a normal refuse container for disposal as solid waste.

A.10.2 DECONTAMINATION RINSATES

Detergent-bearing liquid wastes from equipment decontamination will be stored in 5-gallon carboys. Decontamination water will also be managed in accordance with hazardous materials and TSCA regulations as necessitated by the level of contamination.

A.10.3 EXCESS SAMPLE MATERIALS

At each sampling location, all excess soil and decontamination water will be stored in drums onsite until proper disposal.

A.11.0 Training Requirements

Individuals performing fieldwork at locations where potentially hazardous materials and conditions may be encountered must meet specific training requirements. Because hazardous contaminant concentrations are not expected, training will be site-specific, and an experienced person will oversee all inexperienced personnel for one working day.

A.11.1 PROJECT-SPECIFIC TRAINING

All field personnel must read this HSP and be familiar with its contents before beginning fieldwork. Furthermore, field personnel must acknowledge reading the HSP by signing the attached Field Personnel Health and Safety Plan Review form, which will be kept in the project files.

The FC/HSO or a designee will provide project-specific training prior to the first day of fieldwork and whenever new workers arrive onsite. Field personnel will not be allowed to begin work until project-specific training is completed and documented by the FC/HSO. Training will address the HSP and all health and safety issues and procedures pertinent to field operations. Training will include, but not be limited to, the following topics:

- Activities with the potential for chemical exposure
- Activities that pose physical hazards and actions to control those hazard
- Hazardous materials information (MSDS) for materials brought onsite
- Use and limitations of PPE
- Decontamination procedures
- Emergency procedures
- Use and hazards of sampling equipment

- Location of emergency equipment

A.11.2 DAILY SAFETY BRIEFINGS

The FC/HSO or a designee will present safety briefings before the start of each day's activities. These safety briefings will outline the activities expected for the day, update work practices and hazards, address any specific concerns associated with the project site, and review emergency procedures and route. The FC/HSO or designee will document safety briefings in the logbook.

A.11.3 FIRST AID AND CPR

At least one member of the field team must have first aid and cardiopulmonary resuscitation (CPR) training. Documentation of which individuals possess first aid and CPR training will be kept in the project health and safety files.

A.12.0 Medical Surveillance

A medical surveillance program that conforms to the provisions of 29 CFR 1910§120(f) will not be necessary for field personnel for this project because they do not meet any of the four criteria outlined in the regulations for implementation of a medical surveillance program.

- Employees who are or may be exposed to hazardous substances or health hazards at or above permissible exposure levels for 30 days or more per year (1910.120[f][2][I])
- Employees who must wear a respirator for 30 days or more per year (1910.120[f][2][ii])
- Employees who are injured or become ill due to possible overexposures involving hazardous substances or health hazards from an emergency response or hazardous waste operation (1910.120[f][2][iii])
- Employees who are members of HAZMAT teams (1910.120[f][2][iv])

As described in Section A.8, employees will monitor themselves and each other for any deleterious changes during the performance of all field activities.

A.13.0 Reporting and Record Keeping

All field personnel will sign the attached Field Personnel Health and Safety Plan Review form. If necessary, accident and/or incident report forms and copies of OSHA Form 200 will be completed by the FC/HSO.

The FC/HSO or a designee will maintain a health and safety logbook that records health-and-safety-related details of the project. Alternatively, entries may be made in the field logbook, in which case a separate health and safety logbook will not be

required. The logbook must be bound and the pages numbered consecutively. Entries will be made with indelible blue ink. At a minimum, each day's entries must include the following information:

- Project name or location
- Names of all personnel onsite
- Weather conditions
- Type of fieldwork being performed

The person maintaining the entries will initial and date the bottom of each completed page. Blank space at the bottom of an incompletely filled page will be lined out. Each day's entries will begin on the first blank page after the previous workday's entries.

A.14.0 Emergency Response

As a result of the onsite hazards and the conditions under which fieldwork will be conducted, the potential exists for an emergency situation to occur. Emergencies may include personal injury, exposure to hazardous substances, fire, explosion, or the release of toxic or non-toxic substances. Occupational Safety and Health Administration (OSHA) regulations require that an emergency response plan be available to guide actions in emergency situations.

Field personnel will be responsible for identifying emergency situations; providing first aid, if appropriate; notifying the appropriate personnel or agency; and evacuating any hazardous area. Field personnel will attempt to control only very minor hazards that could present an emergency situation, such as a small fire, and will otherwise rely on outside emergency responders.

A.14.1 Emergency Preparation

Before the start of field activities, the FC/HSO will ensure that appropriate emergency preparation activities have been carried out. These include:

- Meeting with the equipment handlers to discuss emergency procedures in the event that a person is injured
- Conducting a training session to inform all field personnel of emergency procedures, locations of emergency equipment and their use, and proper evacuation procedures
- Conducting a training session led by the drilling subconsultant to inform field personnel of the operating procedures and specific risks associated with the drilling equipment
- Ensuring that field personnel are aware of the components of the emergency response plan in the HSP and ensuring that a copy of the HSP accompanies the field team

A.14.2 EMERGENCY COORDINATOR

The FC/HSO will serve as the emergency coordinator in the event of an emergency. A replacement will be designated for those times when the FC/HSO is not onsite or not serving as the project emergency coordinator. The designee will be noted in the logbook. The project emergency coordinator will be notified immediately when an emergency is identified. The emergency coordinator will be responsible for evaluating the emergency, notifying the appropriate emergency response unit, coordinating access with those units, and directing interim actions onsite before the arrival of emergency response units. The project emergency coordinator will notify the HSM and the Windward project coordinator as soon as possible after initiating an emergency response action. The Windward project coordinator will have responsibility for notifying the client.

A.14.3 EMERGENCY CONTACTS

All field personnel must know whom to notify in the event of an emergency, even though the EC has primary responsibility for emergency notification. Table A-2 lists the names and phone numbers for emergency contacts.

Table A-2. Emergency contacts

CONTACT	TELEPHONE NUMBER
Emergency Responders	
Ambulance	911
Police	911
Fire	911
Emergency Support Services	
Harborview Medical Center	(206) 323-3074
National Response Center	(800) 424-8802
EPA	(908) 321-6660
Washington State Department of Ecology, Northwest Region Spill Response (24-hour emergency line)	(206) 649-7000
Project Management	
Jeffrey Fellows, Windward project coordinator	(206) 301-4102
Tad Deshler, corporate health and safety manager	(206) 812-5406
Joanna Florer, field coordinator/field health and safety officer	(206) 295-8956

A.14.4 IDENTIFICATION OF EMERGENCY SITUATIONS

Emergency situations will generally be identified through observation. An injury or illness will be considered an emergency if it requires treatment by a medical professional and cannot be treated onsite with simple first aid techniques. If evacuation is necessary, decontamination procedures will be performed only if doing so does not further jeopardize the welfare of field personnel. If an injured individual is

also heavily contaminated and must be transported by emergency vehicle, the emergency response team will be told of the type of contamination. To the extent possible, contaminated PPE will be removed, but only if doing so does not exacerbate the injury. Plastic sheeting will be used to reduce the potential for spreading contamination to the inside of the emergency vehicle.

A.14.4.1 Fire and Explosion

Field personnel will attempt to control only small fires. If a fire cannot be controlled with a fire extinguisher, personnel will withdraw from the vicinity of the fire and call 911. If an explosion appears likely, personnel will follow evacuation procedures specified during the training session.

A.14.4.2 Personal Injury

In the event of serious personal injury, including unconsciousness, possibility of broken bones, severe bleeding or blood loss, burns, shock, or trauma, the first responder will immediately:

1. Administer first aid, if qualified.
2. If not qualified, seek out an individual who is qualified to administer first aid, if time and conditions permit.
3. Notify the project emergency coordinator of the incident, the name of the injured individual, the location, and the nature of the injury.

The emergency coordinator will immediately:

1. Call 911.
2. Assist the injured individual.
3. Follow the emergency procedures for retrieving or disposing of equipment outlined in the training session and proceed to the predetermined emergency pick-up site.
4. Identify someone to accompany the injured individual to the hospital.
5. If a life-threatening emergency occurs, the FC/HSO will call 911 and arrange to meet the emergency vehicle at the nearest accessible area. Otherwise, for emergency injuries that are not life threatening (i.e., broken bones, minor lacerations, etc.) the project emergency coordinator will follow the procedures outlined above if that would be more expedient.
6. Notify the HSM and the Windward project coordinator.

If the emergency coordinator determines that emergency response is not necessary, he or she may direct someone to decontaminate and transport the individual to the nearest hospital. Directions and a map showing the route to the hospital are in Section A.14.5. If a field team member leaves to seek medical attention, another team member

should accompany him or her to the hospital. When in doubt about the severity of an injury or exposure, field personnel should always seek medical attention as a conservative approach and notify the emergency coordinator.

The emergency coordinator will be responsible for completing all accident/incident field reports, copies of OSHA Form 200, and other required follow-up forms.

A.14.4.3 Exposure or injury

If an exposure to toxic materials or injury occurs, the first responder will initiate actions appropriate for the type of exposure or injury, as follows:

- Skin contact or abrasion
  1. Wash and rinse the affected area thoroughly with copious amounts of soap and water.
  2. If eye contact has occurred, eyes should be rinsed for at least 15 minutes using the eyewash kit that is part of the emergency equipment.
  3. After initial response actions have been taken, seek appropriate medical attention.
- Inhalation
  1. Move victim to fresh air.
  2. Seek appropriate medical attention.
- Ingestion
  1. Seek appropriate medical attention
- Puncture wound or laceration
  1. Seek appropriate medical attention

A.14.4.4 Spills and Spill Containment

No bulk chemicals or other materials subject to spillage are expected to be used during this project. Thus, no spill containment procedure is required for this project.

A.14.5 EMERGENCY ROUTE TO THE HOSPITAL

The name, address, and telephone number of the hospital that will be used to provide medical care is as follows:

Harborview Medical Center
325 Ninth Avenue
Seattle, WA
(206) 323-3074

Figure A-1 is a map of the route from the T-117 project site to Harborview Medical Center. Directions from T-117 to the Harborview Medical Center are as follows:

1. Drive West on Dallas Avenue S toward 16th Avenue S.
2. Turn right onto 16th Avenue S.
3. Turn left onto East Marginal Way S.
4. Turn right onto Albro Place.
5. Look for entrance ramps to I-5 northbound.
6. Head north on I-5.
7. Take the James Street exit.
8. Head east on James Street to Ninth Avenue.
9. Turn right on Ninth Avenue.
10. Emergency entrance will be two blocks south on the right.

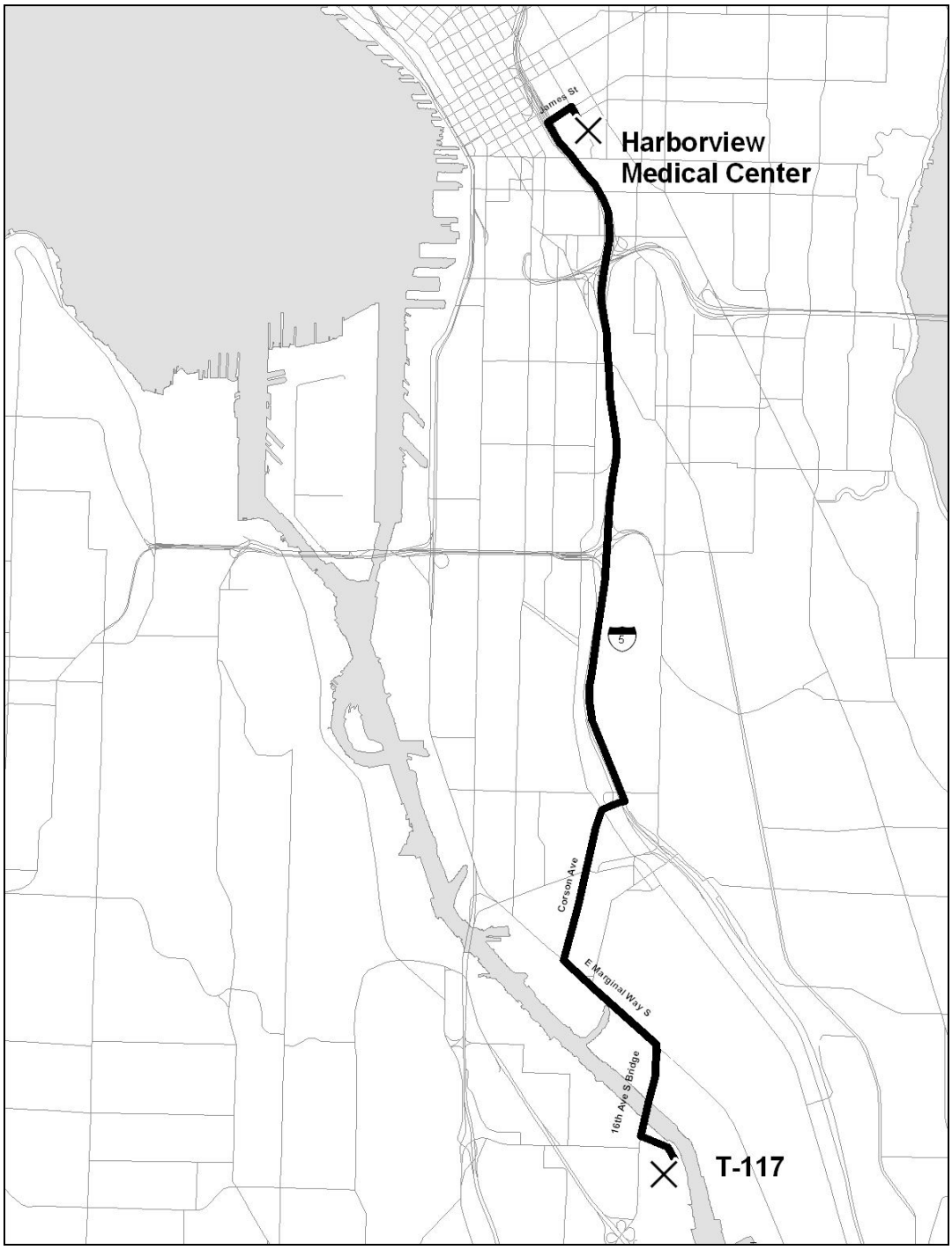

Figure A-1. Route from Terminal 117 to Harborview Medical Center

Field Personnel Health and Safety Plan Review

I have read the health and safety plan (HSP), which covers field activities that will be conducted to investigate potentially contaminated areas in the T-117 Upland Area. I understand the project health and safety requirements that are detailed in this HSP.

Signature	Date
Signature	Date
Signature	Date
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APPENDIX B. HISTORICAL DATA

Table B-1a. Summary of metals results (mg/kg) from T-117 soil: aluminum to lead

SAMPLE ID	REMOVED	ALUMINUM	ANTIMONY	ARSENIC	BARIUM	BERYLLIUM	CADMIUM	CALCIUM	CHROMIUM	COBALT	COPPER	IRON	LEAD
Site hazard assessment summary report, Parametrix, Inc. and SAIC 1991													
MW02-1.5	Y	11900	NA	NA	74	NA	1.0 U	NA	20	NA	50	NA	144
MW02-3.0	Y	14300	NA	NA	77	NA	1.0 U	NA	23	NA	31	NA	63
MW02-4.5	Y	11300	NA	NA	32	NA	1.0 U	NA	12	NA	54	NA	18
MW03-1.5	Y	18200	NA	NA	111	NA	2.0	NA	121	NA	91	NA	188
MW03-3.0	Y	12500	NA	NA	68	NA	1.0 U	NA	11	NA	24	NA	190
MW03-4.0	N	15700	NA	NA	75	NA	1.0 U	NA	17	NA	30	NA	51
MW03-4.5	N	14600	NA	NA	61	NA	1.0 U	NA	14	NA	23	NA	7.0
MW03-6.0	N	13700	NA	NA	55	NA	1.0 U	NA	14	NA	21	NA	5.0 U
Site inspection soil data URS 1994													
MASS02	Y	12200	3 U	193	101	0.32	2.17	10700	192	217	155	30200	380
MASS03	Y	14800	3 U	16	50.9	0.41	0.45	20000	99.2	36.9	66.3	34000	31
MASS04	Y	16900	3 U	40.5	87.8	0.41	0.5	7240	186	255	51.6	29900	67
MASS07	Y	7520	3 U	7	26.3	0.16	0.2 U	3700	106	190	12.8	11200	7.5
MASS08	Y	12100	3 U	43.1	70.8	0.31	0.91	7420	173	169	102	34600	93
MASS09	Y	12400	3 U	26	54.2	0.29	0.81	9740	166	35.7	87.3	26100	76.2
Focused site characterization, SECOR International Corp. 1997													
SB-UA-3	N	NA	NA	NA	NA	NA	NA	NA	5.32	NA	NA	NA	8.0
SB-UA-4.5	N	NA	NA	NA	NA	NA	NA	NA	13.4	NA	NA	NA	118
SB-UB-3	N	NA	NA	NA	NA	NA	NA	NA	5.41	NA	NA	NA	1.25 U
SB-UB-4.5	N	NA	NA	NA	NA	NA	NA	NA	5.36	NA	NA	NA	1.25 U
SB-UC-3	N	NA	NA	NA	NA	NA	NA	NA	13.1	NA	NA	NA	1.25 U
SB-UC-4.5	N	NA	NA	NA	NA	NA	NA	NA	13.6	NA	NA	NA	28.1
Windward Environmental LLC; Onsite Enterprises, Inc.; and Dalton, Olmsted & Fuglevand, Inc. 2003													
South ditch area sampling													
T-117-DS1	N	NA	NA	10 U	NA	NA	2.1	NA	26	NA	62.7	NA	73
T-117-DS1-D[a]	N	NA	NA	10 U	NA	NA	2.2	NA	27	NA	63.3	NA	79
T-117-DS2	N	NA	NA	10	NA	NA	1.9	NA	36	NA	76.4	NA	130
Catch basin sampling													
T-117-CB1-SU	Y	NA	NA	12	NA	NA	0.7	NA	34.4 J	NA	86.9	NA	50
T-117-CB1-SU-D[a]	Y	NA	NA	14	NA	NA	0.7	NA	33.8	NA	82.8	NA	45
T-117-CB5	Y	NA	NA	24	NA	NA	0.7	NA	35.4	NA	113	NA	57
T-117-CB5-OUT	Y	NA	9 U	22 J	NA	NA	1.6	NA	53.7	NA	144	NA	61

[a] Field duplicate

NA – not analyzed or data not available

J – result estimated

U – result undetected at reporting limit shown

Table B-1b. Summary of metals results (mg/kg) from T-117 soil: magnesium to zinc

Sample ID	Removed	Magnesium	Manganese	Mercury	Nickel	Potassium	Silver	Sodium	Thallium	Vanadium	Zinc
Site hazard assessment summary report, Parametrix, Inc. 1991											
MW02-1.5	Y	NA	NA	NA	28	NA	NA	NA	NA	NA	180
MW02-3.0	Y	NA	NA	NA	29	NA	NA	NA	NA	NA	84
MW02-4.5	Y	NA	NA	NA	17	NA	NA	NA	NA	NA	41
MW03-1.5	Y	NA	NA	NA	80	NA	NA	NA	NA	NA	381
MW03-3.0	Y	NA	NA	NA	13	NA	NA	NA	NA	NA	85
MW03-4.0	N	NA	NA	NA	16	NA	NA	NA	NA	NA	100
MW03-4.5	N	NA	NA	NA	12	NA	NA	NA	NA	NA	32
MW03-6.0	N	NA	NA	NA	10	NA	NA	NA	NA	NA	29
Site inspection soil data, URS 1994											
MASS02	Y	7120	402	NA	65.1 U	790	0.79	1120	8.4	51.4	940
MASS03	Y	16200	577	NA	66.7 U	771	0.69	1100	7.8	77.2	98.8
MASS04	Y	7630	452	NA	94.1 U	1290	0.53	683	6.9	56.6	184
MASS07	Y	2510	133	NA	23.2 U	473	0.3 U	565	5 U	33.3	50.5
MASS08	Y	7400	359	NA	230 U	601	0.76	726	7.7	53.2	241
MASS09	Y	9750	254	NA	101 U	536	0.78	931	5 U	62.4	197
Focused site characterization, SECOR International Corp. 1997											
SB-UA-3	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	43.1
SB-UA-4.5	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	179
SB-UB-3	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	19.3
SB-UB-4.5	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.4
SB-UC-3	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	77.6
SB-UC-4.5	N	NA	NA	NA	NA	NA	NA	NA	NA	NA	103
Windward Environmental LLC; Onsite Enterprises, Inc.; and Dalton, Olmsted & Fuglevand, Inc. 2003											
South ditch area sampling											
T-117-DS1	N	NA	NA	0.3	NA	NA	0.7 U	NA	NA	NA	454
T-117-DS1-D[a]	N	NA	NA	0.3	NA	NA	0.8 U	NA	NA	NA	430
T-117-DS2	N	NA	NA	0.2	NA	NA	0.7 U	NA	NA	NA	343
Catch basin sampling											
T-117-CB1-SU	Y	NA	NA	0.07 U	NA	NA	26.9	NA	NA	NA	269
T-117-CB1-SU-D[a]	Y	NA	NA	0.06 U	NA	NA	27.6	NA	NA	NA	254
T-117-CB5	Y	NA	NA	0.07	NA	NA	0.5 U	NA	NA	NA	243
T-117-CB5-OUT	Y	NA	NA	0.09 U	40	NA	0.5 U	NA	NA	NA	664 J
Septic tank sampling, Windward Environmental LLC and Onsite Enterprises, Inc. 2005											
SEPTNK-1	N	NA	NA	NA	NA	NA	2.3	NA	NA	NA	NA

[a] Field duplicate of sample in previous row

NA – not analyzed or data not available

J – result estimated

U – result undetected at reporting limit shown

Table B-2. Summary of TPH as diesel and heavy oil results (mg/kg) from T-117 soil

Sample ID	Removed	Unknown Heavy Fuel Oil	Heavy Oil Hydrocarbons	Unknown Lube Oil	Diesel	Gasoline	Bunker/ Related
UST decommissioning and site assessment, Hart Crowser 1992							
10K-1	N	NA	NA	NA	50 U	20 U	200 U
10K-2	N	NA	NA	NA	50 U	20 U	200 U
10K-3	N	NA	NA	NA	50 U	20 U	200 U
4KA-1	N	NA	NA	NA	50 U	20 U	200 U
4KA-2	N	NA	NA	NA	50 U	20 U	200 U
4KA-3	N	NA	NA	NA	50 U	20 U	200 U
4KB-1	N	NA	NA	NA	50 U	20 U	200 U
4KB-2	N	NA	NA	NA	50 U	20 U	200 U
4KB-3	N	NA	NA	NA	240	20 U	200 U
PI-1	N	NA	NA	NA	50 U	20 U	200 U
PI-2	N	NA	NA	NA	790	20 U	200 U
Focused site characterization, SECOR International Corp. 1997							
SB-UA-3	N	25.0 U	56.8 J	25.0 U	NA	NA	NA
SB-UA-4.5	N	25.0 U	1980 J	25.0 U	NA	NA	NA
SB-UB-3	N	25.0 U	25.0 U	25.0 U	NA	NA	NA
SB-UB-4.5	N	25.0 U	25.0 U	25.0 U	NA	NA	NA
SB-UC-3	N	25.0 U	32.2 J	25.0 U	NA	NA	NA
SB-UC-4.5	N	253 J	25.0 U	25.0 U	NA	NA	NA
SB-UE	unknown	25.0 U	250 U	3440	NA	NA	NA
HB-UD-.8	Y	6390	250 U	25.0 U	NA	NA	NA
SB-A1-.5	partial	25.0 U	3110 J	25.0 U	NA	NA	NA
SB-A1-2	N	25.0 U	25400 J	25.0 U	NA	NA	NA
SB-A2-2	Y	25.0 U	546 J	25.0 U	NA	NA	NA
SB-A2-3.5 (4.8 ft)	N	55,100 J	1250 U	25.0 U	NA	NA	NA
SB-A3-2	N	442	25.0 U	25.0 U	NA	NA	NA
SB-A3-3.5 (4.8 ft)	N	25.0 U	2560 J	25.0 U	NA	NA	NA
SB-B1-2	Y	25.0 U	152 J	25.0 U	NA	NA	NA
SB-B1-3.5 (4.5 ft)	Y	2100 J	250 UJ	25.0 UJ	NA	NA	NA
SB-B2-2	N	179 J	25.0 U	25.0 U	NA	NA	NA
SB-B2-3.5	N	318 J	25.0 U	25.0 U	NA	NA	NA
SB-B3-2	N	25.0 U	193 J	25.0 U	NA	NA	NA
SB-B3-3.5	N	39900 J	25.0 U	25.0 U	NA	NA	NA
SB-B4-2	Y	12500	1250 U	25.0 U	NA	NA	NA
SB-B5-2[a]	Y	32000 J	1250 U	25.0 U	NA	NA	NA
SB-B4-3.5 (4.8 ft)	Y	25.0 U	25.0 U	367	NA	NA	NA
SB-C1-2	N	15600	250 U	25.0 U	NA	NA	NA
SB-C1-3.5	N	7020 J	250 U	25.0 U	NA	NA	NA
SB-C2-2	Y	22300	1250 U	25.0 U	NA	NA	NA
SB-C2-3.5	Y	1240 J	250 U	25.0 U	NA	NA	NA
SB-C3-2	N	25.0 U	1830 J	25.0 U	NA	NA	NA
SB-C3-3.5	N	40.2 J	25.0 U	25.0 U	NA	NA	NA
SB-C4-2	Y	2580	250 U	25.0 U	NA	NA	NA
SB-C4-3.5	Y	1240	25.0 U	25.0 U	NA	NA	NA
SB-C5-3.5[a]	Y	10400 J	250U	25.0 U	NA	NA	NA
SB-D1-.5	Y	3320 J	250 UJ	25.0 UJ	NA	NA	NA
SB-D1-3.5	N	76.6 J	25.0 U	25.0 U	NA	NA	NA
SB-D2-.5	Y	63500	250 U	25.0 U	NA	NA	NA
SB-D2-3.5	N	40.3	25.0 U	25.0 U	NA	NA	NA
SB-D3-.5	Y	25.0 U	25.0 U	25.0 U	NA	NA	NA
SB-D3-3.5	Y	8660	250 U	25.0 U	NA	NA	NA
SB-D4-.5	Y	1090	25.0 UJ	25.0 U	NA	NA	NA

Sample ID	Removed	Unknown Heavy Fuel Oil	Heavy Oil Hydrocarbons	Unknown Lube Oil	Diesel	Gasoline	Bunker/ Related
SB-D4-3.5	N	25.0 U	25.0 U	25.0 U	NA	NA	NA
SB-E1-.5	Y	1380	25.0 U	25.0 U	NA	NA	NA
SB-E1-3.5	N	167	25.0 U	25.0 U	NA	NA	NA
SB-E2-.5	Y	953	25.0 U	25.0 U	NA	NA	NA
SB-E2-3.5	N	25.0 U	25.0 U	25.0 U	NA	NA	NA
SB-E3-.5	Y	111	25.0 U	25.0 U	NA	NA	NA
SB-E3-3.5	N	25.0 U	25.0 U	25.0 U	NA	NA	NA
SB-E4-2	N	25.0 U	1090	25.0 U	NA	NA	NA
SB-E5-2[a]	N	1650	25.0 U	25.0 U	NA	NA	NA
SB-E4-3.5	N	635	25.0 U	25.0 U	NA	NA	NA
MW-4-1	Y	551	25.0 U	25.0 U	NA	NA	NA
DITCH-01-0397	Y	2100	7600	NA	NA	NA	NA
DITCH-02-797	Y	770	1900	NA	NA	NA	NA
DITCH-03-797 [a]	Y	NA	NA	NA	NA	NA	NA
Underground diesel storage tank removal, Onsite Enterprises, Inc. 2000							
SG-1	N	NA	NA	NA	ND	NA	NA
SG-2	N	NA	NA	NA	2780	NA	NA
SG-3	N	NA	NA	NA	462	NA	NA

[a] Field duplicate of sample in previous row

NA – not analyzed or data not available

ND – not detected

J – result estimated

U – result undetected at reporting limit shown

Table B-3. Summary of phenols and phthalates results (mg/kg) from T-117 soil

Sample ID	Removed	2,4-Dimethyl-phenol	2-Methyl-phenol	4-Methyl-phenol	Penta-chloro-phenol	Phenol	Bis (2-ethylhexyl) phthalate	Butyl benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate
Windward Environmental LLC; Onsite Enterprises, Inc.; and Dalton, Olmsted & Fuglevand, Inc. 2003												
South ditch area sampling												
T-117-DS1	N	0.093 U	0.093 U	0.093 U	0.46 U	0.093 U	0.34	0.26	0.093 U	0.095	0.093 U	0.093 U
T-117-DS1-D[a]	N	0.085 U	0.085 U	0.085 U	0.42 U	0.13 BU	0.42	0.38 J	0.085 U	0.12	0.085 U	0.085 U
T-117-DS2	N	0.12 U	0.12 U	0.12 U	0.60 U	0.12 U	0.59 J	0.48 J	0.12 U	0.12	0.12 U	0.12 UJ
Catch basin sampling												
T-117-CB1-SU	Y	0.039 U	0.039 U	0.56	0.48 J	0.039 U	1.8	2.2	0.039 U	0.053	0.061	0.039 UJ
T-117-CB1-SU-D[a]	Y	0.039 U	0.039 U	0.55	3.5 J	0.039 U	1.7	2.4	0.039 U	0.047	0.053	0.039 UJ
T-117-CB5	Y	0.084 U	0.084 U	0.084 U	0.42 U	0.084 U	12	0.084 UJ	0.084 U	0.084 U	0.084 U	0.084 UJ
T-117-CB5-OUT	Y	0.040 U	0.040 U	0.440	0.20 U	0.071 BU	6.6	0.43	0.04 U	0.051 J	0.04 U	0.04 UJ

[a] Field duplicate of sample in previous row

J – result estimated

U – result undetected at reporting limit shown

Table B-4. Summary of other SVOC and VOC results (mg/kg) from T-117 soil

Sample ID	Removed	Benzoic acid	Benzyl alcohol	Dibenzo-furan	Hexa-chloro-benzene	Hexachloro-butadiene	Hexachloro-ethane	N-Nitroso-diphenyl-amine	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	1,2,4-Trichloro-benzene
Windward Environmental LLC; Onsite Enterprises, Inc.; and Dalton, Olmsted & Fuglevand, Inc. 2003												
South ditch area sampling												
T-117-DS1	N	2.0 J	0.86	0.093 U	0.00099 U	0.00099 U	NA	0.093 U	0.0028 U	NA	0.0028 U	0.014 U
T-117-DS1-D[a]	N	4.5 J	1.0	0.085 U	0.0010 U	0.0010 U	NA	0.085 U	0.0035 U	NA	0.0035 U	0.018 U
T-117-DS2	N	1.3	0.19	0.12 U	0.012 U	0.012 U	NA	0.120 U	0.0025 UJ	NA	0.0025 UJ	0.012 UJ
Catch basin sampling												
T-117-CB1-SU	Y	0.39 U	0.056	0.052 J	0.0069 U	0.006.9 U	NA	0.039 U	0.0011 UJ	1.1 UJ	0.0011 UJ	0.005.4 UJ
T-117-CB1-SU-D[a]	Y	0.39 U	0.057	0.120 J	0.007.1 U	0.007.1 U	NA	0.039 U	0.0010 U	1.0 U	0.0010 U	0.0051 U
T-117-CB5	Y	0.84 U	0.084 U	0.095	0.004.5 J	0.013	NA	0.084 U	0.0016 JN	13 JN	0.033 JN	0.015 JN
T-117-CB5-OUT	Y	0.40 U	0.087	0.040 U	0.00061 J	0.00098 U	0.040 U	0.040 U	0.0014 UJ	1.4 UJ	0.0014 UJ	0.0072 UJ

[a] Field duplicate of sample in previous row

NA – not analyzed or data not available

J – result estimated

N – tentative identification

U – result undetected at reporting limit shown

Table B-5a. Summary of LPAH results (mg/kg) from T-117 soil

Sample ID	Removed	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Fluorene	Naphthalene	Phenanthrene	Total LPAHs
Site hazard assessment summary report, Parametrix, Inc., and SAIC 1991									
MW02-1.5	Y	130 B	NA	NA			3.30 J	4.70 J	
MW02-3.0	Y	NA	NA	NA			NA	NA	
MW02-4.5	Y	ND	NA	NA			ND	0.110 J	
MW03-1.5	Y	ND	NA	NA			ND	ND	
MW03-3.0	Y	NA	NA	NA			NA	NA	
MW03-4.0	Y	NA	NA	NA			NA	NA	
MW03-4.5	N	0.240 J	NA	NA			0.250 J	0.160 J	
Focused site characterization, SECOR International Corp. 1997									
SB-UA-3	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-UA-4.5	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-UB-3	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-UB-4.5	N	NA	0.150 U	NA	NA	NA	NA	0.150 U	NA
SB-UC-3	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-UC-4.5	N	NA	0.150 U	NA	NA	NA	NA	0.150 U	NA
SB-A1-.5	partial	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-A1-2	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-A2-2	Y	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-A2-3.5 (4.8 ft)	N	NA	252 U	NA	NA	NA	NA	252 U	NA
SB-A3-2	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-A3-3.5 (4.8 ft)	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-A4-.5	Y	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-A4-3.5	Y	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-B1-2	Y	NA	0.150 U	NA	NA	NA	NA	0.150 U	NA
SB-B1-3.5 (4.5 ft)	Y	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-B2-2	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-B2-3.5	N	NA	0.150 UJ	NA	NA	NA	NA	0.150 UJ	NA
SB-B3-2	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-B3-3.5	N	NA	0.150 U	NA	NA	NA	NA	0.150 U	NA
SB-B4-2	Y	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-B5-2[a]	Y	NA	252 UJ	NA	NA	NA	NA	252 UJ	NA
SB-B4-3.5 (4.8 ft)	Y	NA	0.150 U	NA	NA	NA	NA	0.150 U	NA
SB-C1-2	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-C1-3.5	N	NA	6.88 J	NA	NA	NA	NA	6.15 U	NA

Sample ID	Removed	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Fluorene	Naphthalene	Phenanthrene	Total LPAHs
SB-C3-2	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-C3-3.5	N	NA	0.150 U	NA	NA	NA	NA	0.150 U	NA
SB-C4-2	Y	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-C4-3.5	Y	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-C5-3.5[a]	Y	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-D1-.5	Y	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-D1-3.5	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-D2-.5	Y	NA	252 J	NA	NA	NA	NA	252 J	NA
SB-D2-3.5	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-D3-.5	Y	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-D3-3.5	Y	NA	3.08 UJ	NA	NA	NA	NA	3.08 UJ	NA
SB-D4-.5	Y	NA	0.150 U	NA	NA	NA	NA	0.150 U	NA
SB-D4-3.5	N	NA	0.150 U	NA	NA	NA	NA	0.150 U	NA
SB-E1-.5	Y	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-E1-3.5	N	NA	0.150 U	NA	NA	NA	NA	0.150 U	NA
SB-E2-.5	Y	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-E2-3.5	N	NA	0.150 U	NA	NA	NA	NA	0.150 U	NA
SB-E3-.5	Y	NA	0.150 U	NA	NA	NA	NA	0.150 U	NA
SB-E3-3.5	N	NA	0.150 U	NA	NA	NA	NA	0.150 U	NA
SB-E4-2	N	NA	0.150 U	NA	NA	NA	NA	0.378 J	NA
SB-E5-2[a]	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
SB-E4-3.5	N	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
MW-4-1	Y	NA	6.15 U	NA	NA	NA	NA	6.15 U	NA
DITCH-01-0397	Y	NA	0.1 U	NA	NA	NA	NA	0.05	NA
DITCH-02-797	Y	NA	6.30 UJ	NA	NA	NA	NA	6.30 UJ	NA
DITCH-03-797[a]	Y	NA	1.95 UJ	NA	NA	NA	NA	1.95 UJ	NA
Windward Environmental LLC; Onsite Enterprises, Inc.; and Dalton, Olmsted & Fuglevand, Inc. 2003									
Soil boring sampling									
T-117-SB1-01	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.037	0.037
T-117-SB1-02	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB1-03	N	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U	0.038 U
T-117-SB1-04	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB1-05	N	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.17	0.17
T-117-SB1-06	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB2-01	N	0.11	0.28	0.025	0.45	0.24	0.39	1.6	3.0
T-117-SB2-02	N	0.20 U	0.2	0.20 U	0.38	0.20 U	0.20 U	1.9	2.5
T-117-SB2-03	N	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.031	0.031

Sample ID	Removed	2-Methyl-naphthalene	Acenaphthene	Acenaphthylene	Anthracene	Fluorene	Naphthalene	Phenanthrene	Total LPAHs
T-117-SB2-06	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB3-01	N	0.019 U	0.12	0.019 U	0.28	0.12	0.019 U	0.98	1.5
T-117-SB3-02	N	0.041	0.22	0.026	0.76	0.20	0.082	2.5	3.8
T-117-SB3-03	N	0.019 U	0.019 U	0.019 U	0.021	0.019 U	0.019 U	0.087	0.11
T-117-SB3-04	N	0.019 U	0.025	0.019 U	0.055	0.023	0.02	0.16	0.28
T-117-SB3-05	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB3-06	N	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
T-117-SB4-01	N	0.065	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.075	0.075
T-117-SB4-02	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.022	0.022
T-117-SB4-03	N	0.26	0.19	1.2	0.95	0.77	0.36	9.0	13
T-117-SB4-04	N	0.019 U	0.039	0.019 U	0.026	0.035	0.019 U	0.019 U	0.10
T-117-SB4-05	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB4-06	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB5-01	N	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.039 U	0.086	0.086
T-117-SB5-02	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB5-03	N	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
T-117-SB5-04	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB5-05	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB5-06	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.026	0.026
T-117-SB6-01	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.17	0.27
T-117-SB6-02	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.043	0.043
T-117-SB6-03	N	0.019 UJ	0.019 UJ	0.019 UJ	0.036 J	0.019 UJ	0.019 UJ	0.23 J	0.27 J
T-117-SB6-05	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB6-06	N	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
South ditch area sampling									
T-117-DS1	N	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.32	0.32
T-117-DS1-D[a]	N	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.38	0.38
T-117-DS2	N	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.120 U	0.63	0.63
Catch basin sampling									
T-117-CB1-SU	Y	0.039 U	0.063	0.039 U	0.11	0.091	0.039 U	0.85	1.1
T-117-CB1-SU-D[a]	Y	0.062	0.095	0.039 U	0.076	0.17	0.063	1.2	1.6
T-117-CB5	Y	0.81	0.084 U	0.084 U	0.095	0.38	0.21	0.96	1.7
T-117-CB5-OUT	Y	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.040 U	0.16	0.16

[a] Field duplicate of sample in previous row.

NA – not analyzed or data not available

J – result estimated

U – result undetected at reporting limit shown

Table B-5b. Summary of PAH and SVOC results (mg/kg) from T-117 soil: HPAHs and dibenzofuran

Sample ID	Removed	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo (g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoran-thene	Indeno (1,2,3-cd) pyrene	Pyrene	Total HPAHs	Dibenzo-furan
Focused site characterization, SECOR International Corp. 1997													
SB-UA-3	N	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.410 U	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-UA-4.5	N	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.410 U	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-UB-3	N	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.410 U	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-UB-4.5	N	0.0100 U	0.0100 U	0.0100 U	NA	0.0100 U	0.0100 U	0.0100 U	0.0100 U	NA	0.0100 U	NA	NA
SB-UC-3	N	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.482 J	0.410 U	0.410 U	NA	0.410 UJ	NA	NA
SB-UC-4.5	N	0.0133 J	0.0407 J	0.0100 U	NA	0.0100 U	0.107	0.0100 U	0.0100 U	NA	0.0100 U	NA	NA
SB-A1-.5	partial	0.410 U	0.410 U	0.410 U	NA	0.410 U	1.02 J	0.410 U	0.522 J	NA	0.750 J	NA	NA
SB-A1-2	N	0.508 J	0.410 U	0.410 U	NA	0.410 U	1.77 J	0.410 U	0.755 J	NA	0.410 U	NA	NA
SB-A2-2	Y	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.410 U	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-A2-3.5 (4.8 ft)	N	6.18 U	6.18 U	6.18 U	NA	6.18 U	6.18 U	6.18 U	6.18 U	NA	6.18 U	NA	NA
SB-A3-2	N	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.410 U	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-A3-3.5	N	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.724 J	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-A4-.5	Y	0.632 J	0.410 U	0.410 U	NA	0.410 U	1.08 J	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-A4-3.5 (4.8 ft)	Y	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.410 U	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-B1-2	Y	0.0100 U	0.0100 U	0.0100 U	NA	0.0100 U	0.0265 J	0.0100 U	0.0100 U	NA	0.0122 UJ	NA	NA
SB-B1-3.5 (4.5 ft)	Y	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.524 J	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-B2-2	N	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.410 U	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-B2-3.5	N	0.0111 J	0.0100 UJ	0.0100 UJ	NA	0.0100 UJ	0.0100 UJ	0.0100 UJ	0.0100 UJ	NA	0.0158 J	NA	NA
SB-B3-2	N	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.834	0.410 U	0.410 U	NA	0.416 J	NA	NA
SB-B3-3.5	N	0.0287 J	0.0126 J	0.0100 U	NA	0.0100 U	0.101 J	0.0100 U	0.0344 J	NA	0.0471 J	NA	NA
SB-B4-2	Y	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.742 J	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-B5-2[a]	Y	16.8 UJ	16.8 UJ	16.8 UJ	NA	16.8 UJ	16.8 UJ	16.8 UJ	16.8 UJ	NA	16.8 UJ	NA	NA
SB-B4-3.5 (4.8 ft)	Y	0.150 U	0.085 J	0.0100 U	NA	0.0100 U	0.0484 J	0.0100 U	0.0215 J	NA	0.0258 J	NA	NA
SB-C1-2	N	2.21 J	0.410 U	0.410 U	NA	0.410 U	3.93 J	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-C1-3.5	N	1.54 J	0.410 U	0.410 U	NA	0.410 U	1.97 J	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-C2-2	Y	0.722 J	0.410 U	0.410 U	NA	0.410 U	1.77 J	0.853 J	0.410 U	NA	0.410 U	NA	NA
SB-C2-3.5	Y	0.493 J	0.410 U	0.410 U	NA	0.410 U	2.78 J	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-C3-2	N	0.733 J	1.12 J	0.490 J	NA	0.410 U	2.17 J	0.410 U	2.44 J	NA	0.914 J	NA	NA
SB-C3-3.5	N	0.0294 J	0.0621 J	0.0210 J	NA	0.0239 J	0.0639 J	0.0100 U	0.116 J	NA	0.0632 J	NA	NA
SB-C4-2	Y	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.743 J	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-C4-3.5	Y	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.410 U	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-C5-3.5[a]	Y	0.930 J	0.410 U	0.410 U	NA	0.410 U	1.23 J	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-D1-.5	Y	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.846 J	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-D1-3.5	N	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.419 J	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-D2-.5	Y	16.8 UJ	16.8 UJ	16.8 UJ	NA	16.8 UJ	16.8 UJ	16.8 UJ	16.8 UJ	NA	16.8 UJ	NA	NA
SB-D2-3.5	N	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.410 U	0.410 U	0.410 U	NA	0.410 U	NA	NA

Sample ID	Removed	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo (g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoran-thene	Indeno (1,2,3-cd) pyrene	Pyrene	Total HPAHs	Dibenzo-furan
SB-D3-.5	Y	0.150 U	0.0100 U	0.0100 U	NA	0.0100 U	0.0141 J	0.0100 U	0.0100 U	NA	0.0102 J	NA	NA
SB-D3-3.5	Y	0.410 U	0.915 J	0.410 U	NA	0.410 U	2.48 J	0.410 U	1.88 J	NA	2.50 J	NA	NA
SB-D4-.5	Y	0.205 UJ	0.205 UJ	0.205 UJ	NA	0.205 UJ	0.205 UJ	0.205 UJ	0.205 UJ	NA	0.205 UJ	NA	NA
SB-D4-3.5	N	0.0154 J	0.0342 J	0.0100 U	NA	0.0115 J	0.101 J	0.0100 U	0.0800 J	NA	0.0928 J	NA	NA
SB-E1-.5	Y	0.497 J	0.410 U	0.410 U	NA	0.410 U	0.410 U	0.410 U	0.410 U	NA	0.410 U	NA	NA
SB-E1-3.5	N	0.0100 U	0.0100 U	0.0100 U	NA	0.0100 U	0.0100 U	0.0100 U	0.0100 U	NA	0.0100 U	NA	NA
SB-E2-.5	Y	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.590 J	0.410 U	0.435 J	NA	0.608 J	NA	NA
SB-E2-3.5	N	0.0100 U	0.0164 J	0.0100 U	NA	0.0100 U	0.0319 J	0.0100 U	0.0207 J	NA	0.0294 J	NA	NA
SB-E3-.5	Y	0.0279 J	0.0891 J	0.0299 J	NA	0.0252 J	0.154 J	0.0100 U	0.113 J	NA	0.177 J	NA	NA
SB-E3-3.5	N	0.0207 J	0.0358 J	0.0140 J	NA	0.0117 J	0.0841 J	0.0100 U	0.0831 J	NA	0.08967 J	NA	NA
SB-E4-2	N	0.0283 J	0.0357 J	0.0272 J	NA	0.0147 J	0.0646 J	0.0100 U	0.0704 J	NA	0.0791 J	NA	NA
SB-E5-3[a]	N	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.410 U	0.410 U	0.410 U	NA	6.15 U	NA	NA
SB-E4-3.5	N	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.410 U	0.410 U	0.410 U	NA	0.410 U	NA	NA
MW-4-1	Y	0.410 U	0.410 U	0.410 U	NA	0.410 U	0.745 J	0.410 U	0.573 J	NA	0.417 UJ	NA	NA
DITCH-01-0397	Y	0.05	0.09	0.05	NA	0.02	0.02	0.01 U	0.07	NA	0.1 U	NA	NA
DITCH-02-797	Y	0.420 UJ	0.420 UJ	0.420 UJ	NA	0.420 UJ	0.410 UJ	0.820 UJ	6.30 UJ	NA	0.420 UJ	NA	NA
DITCH-03-797[a]	Y	0.862	1.08 J	0.336 J	NA	0.229 J	1.06 J	0.150 UJ	1.62 J	NA	2.01 J	NA	NA
Site hazard assessment summary report, Parametrix, Inc. and SAIC 1991													
MW02-1.5	Y	ND	NA	NA		NA	4.30 J	NA	ND		ND		
MW02-3.0	Y	NA	NA	NA		NA	NA	NA	NA		NA		
MW02-4.5	Y	0.110 J	NA	NA		NA	0.100 J	NA	0.150 J		0.170 J		
MW03-1.5	Y	ND	NA	NA		NA	ND	NA	ND		ND		
MW03-3.0	Y	NA	NA	NA		NA	NA	NA	NA		NA		
MW03-4.0	N	NA	NA	NA		NA	NA	NA	NA		NA		
MW03-4.5	N	ND	NA	NA		NA	ND	NA	ND		ND		
Windward Environmental LLC; Onsite Enterprises, Inc.; and Dalton, Olmsted & Fuglevand, Inc. 2003													
Soil boring sampling													
T-117-SB1-01	N	0.025 J	0.034	0.036	0.021	0.058 U	0.035 J	0.019 U	0.056	0.019 U	0.033	0.240 J	0.019 U
T-117-SB1-02	N	0.019 U	0.024	0.033	0.051	0.019 U	0.031	0.019 U	0.025	0.026	0.03	0.22	0.019 U
T-117-SB1-03	N	0.038 U	0.052	0.056	0.11	0.056	0.10	0.038 U	0.047	0.073	0.096	0.59	0.019 U
T-117-SB1-04	N	0.019 U	0.019 U	0.019 U	0.027	0.019 U	0.026	0.019 U	0.022	0.019 U	0.025	0.10	0.019 U
T-117-SB1-05	N	0.18	0.39	0.11	0.11	0.13	0.72	0.039 U	0.041	0.050 J	0.17	1.9 J	0.039 U
T-117-SB1-06	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.039	0.019 U	0.019 U	0.019 U	0.019 U	0.039	0.019 U
T-117-SB2-01	N	0.88	0.92	0.99	0.60	0.77	0.94	0.18	2.0	0.55	1.5	9.3	0.15
T-117-SB2-02	N	0.67	0.59	0.56	0.41	0.50	0.81	0.20 U	1.7	0.36	1.4	7.1	0.20 U
T-117-SB2-03	N	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.039	0.020 U	0.020 U	0.039	0.020 U
T-117-SB2-06	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB3-01	N	0.38	0.37	0.49	0.11	0.30	0.44	0.048	1.1	0.10	0.80	4.1	0.06
T-117-SB3-02	N	1.6	1.6	1.6	0.73	1.5	1.9	0.28	3.9	0.77	3.3	17	0.11
T-117-SB3-03	N	0.042	0.053	0.074	0.03	0.051	0.063	0.019 U	0.10	0.019 U	0.10	0.51	0.019 U

Sample ID	Removed	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo (g,h,i) perylene	Benzo(k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoran-thene	Indeno (1,2,3-cd) pyrene	Pyrene	Total HPAHs	Dibenzo-furan
T-117-SB3-04	N	0.084	0.085	0.074	0.023	0.12	0.096	0.019 U	0.20	0.024	0.18	0.89	0.019 U
T-117-SB3-05	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB3-06	N	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
T-117-SB4-01	N	0.058 U	0.058 U	0.058 U	0.058 U	0.058 U	0.063	0.058 U	0.058 U	0.058 U	0.058 U	0.063	0.058 U
T-117-SB4-02	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.025	0.025	0.019 U
T-117-SB4-03	N	2.2	3.8	4.9	1.1	4.2	4.0	0.40	9.3	1.2	8.5	40	0.47
T-117-SB4-04	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.028	0.019 U	0.019 U	0.019 U	0.046	0.074	0.081
T-117-SB4-05	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB4-06	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB5-01	N	0.059	0.089	0.066	0.14	0.12	0.13	0.041	0.12	0.062	0.11	0.94	0.039 U
T-117-SB5-02	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB5-03	N	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
T-117-SB5-04	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB5-05	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB5-06	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.024	0.019 U	0.019 U	0.024	0.019 U
T-117-SB6-01	N	0.20	0.18	0.14	0.037	0.21	0.27	0.019 U	0.31	0.039	0.45	1.8	0.019 U
T-117-SB6-02	N	0.061	0.060	0.067	0.019 U	0.075	0.081	0.019 U	0.092	0.019 U	0.16	0.60	0.019 U
T-117-SB6-03	N	0.21 J	0.13 J	0.10 J	0.054 J	0.14 J	0.240 J	0.029 J	0.410 J	0.054 J	0.32 J	1.7 J	0.019 U
T-117-SB6-05	N	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U	0.019 U
T-117-SB6-06	N	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
South ditch area sampling													
T-117-DS1	N	0.19	0.23 J	0.53	0.11 J	0.32 J	0.23	0.093 UJ	0.52	0.19 J	0.75	3.1J	0.093 U
T-117-DS1-D[a]	N	0.21 J	0.23 J	0.55	0.19 J	0.34 J	0.270 J	0.120 J	0.58	0.21 J	1.0 J	3.7 J	0.085 U
T-117-DS2	N	0.41 J	0.49 J	1.1 J	0.60 J	0.61 J	0.900 J	0.230 J	0.97	0.43 J	2.4 J	8.1 J	0.12 U
Catch basin sampling													
T-117-CB1-SU	Y	0.29	0.28	0.50	0.15 J	0.41	0.43	0.053 J	1.2	0.24	1.5	5.1 J	0.052 J
T-117-CB1-SU-D[a]	Y	0.25	0.23	0.53	0.15 J	0.38	0.45	0.054 J	1.4	0.21	1.7	5.4 J	0.12 J
T-117-CB5	Y	0.29 J	0.25 J	0.69 J	0.210 J	0.29 J	0.510 J	0.084 UJ	0.56	0.19 J	1.5 J	4.5 J	0.095
T-117-CB5-OUT	Y	0.073	0.079 J	0.27 J	0.067 J	0.12 J	0.16	0.040 UJ	0.23	0.075 J	0.46	1.5 J	0.040 U

[a] Field duplicate of sample in previous row.

NA – not analyzed or data not available

J – result estimated

U – result undetected at reporting limit shown

Table B-6. Summary of PCB results (mg/kg) from T-117 soil

SAMPLE ID	REMOVED	TOTAL PCBS
Site hazard assessment summary report, Parametrix, Inc., and SAIC 1991		
MW02-1.5	Y	370[b]
MW02-3.0	Y	600[b]
MW02-4.5	Y	2.7[b]
MW03-1.5	Y	170[b]
MW03-3.0	Y	50[b]
MW03-4.0	N	6.2[b]
MW03-4.5	N	1.8[b]
Site Assessment, URS 1994		
MASS02	Y	120[b]
MASS03	Y	23[b]
MASS04	Y	18[b]
MASB07	Y	1.6[b]
MASB08	Y	110[b]
MASB09	Y	180[b]
E&E Soil Sampling, 1995		
T5090001	N	11[b]
T5090003	N	23[b]
T5090004	Y	15[b]
T5090005	Y	13[b]
T5090006	Y	40[b]
T5090007	Y	26[b]
T5090008	Y	17[b]
Focused site characterization, SECOR International Corp. 1997		
SB-UA-3	N	0.061[b]
SB-UA-4.5	N	17.6[b]
SB-UB-3	N	0.0854[b] J
SB-UB-4.5	N	0.0913[b]
SB-UC-3	N	0.175[b]
SB-UC-4.5	N	2.14[b]
SB-UE	unknown	11.1[b]
HB-UD	Y	433[b]
SB-A1-.5	partial	31.5[b]
SB-A1-2	N	33.7[b]
SB-A2-2	Y	0.385[b]
SB-A2-3.5 (4.8 ft)	N	2.9[b]
SB-A3-2	N	0.619[b]
SB-A3-3.5 (4.8 ft)	N	0.268[b] J
SB-A4-.5	Y	51.4[b]
SB-A4-3.5	Y	0.726[b]
SB-B1-2	Y	1.49[b]
SB-B1-3.5 (4.5 ft)	Y	0.344[b]
SB-B2-2	N	0.433[b]
SB-B2-3.5	N	0.221[b]
SB-B3-2	N	0.0792[b]
SB-B3-3.5	N	6.8[b]
SB-B4-2	Y	85.1[b]
SB-B5-2[a]	Y	0.124[b]
SB-B4-3.5	Y	0.360[b]
SB-C1-2	N	2.42[b]
SB-C1-3.5	N	0.77[b]
SB-C2-2	Y	70.6[b]
SB-C2-3.5	Y	0.0942[b]
SB-C3-2	N	5.64[b]
SB-C3-3.5	N	0.050[b] J
SB-C4-2	Y	109[b]
SB-C4-3.5	Y	18.5[b]
SB-C5-3.5[a]	Y	0.050[b] U
SB-D1-.5	Y	41.2[b]
SB-D1-3.5	N	0.162[b] J
SB-D2-.5	Y	29.6[b] J
SB-D2-3.5	N	0.050[b] J
SB-D3-.5	Y	18.3[b]
SB-D3-3.5	Y	531[b]
SB-D4-.5	Y	15.3[b]
SB-D4-3.5	N	0.107[b]
SB-E1-.5	Y	268[b]
SB-E1-3.5	N	1.66[b] J
SB-E2-.5	Y	64.1[b] J
SB-E2-3.5	N	0.137[b] J
SB-E3-.5	Y	110[b] J
SB-E3-3.5	N	0.0565[b] J
SB-E4-2	N	0.252[b] J
SB-E4-3.5	N	0.149[b] J
MW-4-1	Y	183
DITCH-01-0397	Y	40[b]
DITCH-02-797	Y	63.9[b]
DITCH-03-797[a]	Y	59[b]
1999 Removal action verification sampling, Onsite Enterprises, Inc. 2000		
SG-(M)W2-4.5	Y	0.50 U
SG-(M)W2-5.5	N	0.50 U
SG-MASS03-4.0	N	0.50 U
SG-MASS04-4.0[a]	N	0.50 U
SG-A2SW-3.0	Y	146
SG-A2-3.5	Y	0.50 U
SG-A2SW-5.0	N	0.50 U
SG-B1-4.0	Y	42.7
SG-B4SE-4.0	Y	7.18
SG-B4SW-4.0	Y	50.0
SG-D3-4.0	Y	0.71

Table B-6, cont.

SAMPLE ID	REMOVED	TOTAL PCBS
SG-D3-5.5	N	0.50 U
SG-F4-2.5[c]	N	22.2
SG-L4-2.5[a]	N	16.3
Windward Environmental LLC; Onsite Enterprises, Inc.; and Dalton, Olmsted & Fuglevand, Inc., 2003-2005		
Shoreline soil boring sampling, 2003		
T-117-SB1-01	N	85
T-117-SB1-02	N	33
T-117-SB1-03	N	0.056
T-117-SB1-04	N	2.7
T-117-SB1-05	N	0.13
T-117-SB1-06	N	0.020 U
T-117-SB2-01	N	150
T-117-SB2-02	N	120
T-117-SB2-03	N	5.6
T-117-SB2-06	N	0.033
T-117-SB3-01	N	29
T-117-SB3-02	N	28
T-117-SB3-03	N	6.7
T-117-SB3-04	N	5.6
T-117-SB3-05	N	0.019 U
T-117-SB3-06	N	0.020 U
T-117-SB4-01	N	0.020 U
T-117-SB4-02	N	0.020 U
T-117-SB4-03	N	4.0
T-117-SB4-04	N	0.020 U
T-117-SB4-05	N	0.016 J
T-117-SB4-06	N	0.020 U
T-117-SB5-01	N	15
T-117-SB5-02	N	6.8
T-117-SB5-03	N	0.018 J
T-117-SB5-04	N	0.020 U
T-117-SB5-05	N	0.14
T-117-SB5-06	N	0.18
T-117-SB6-01	N	5.1
T-117-SB6-02	N	0.099
T-117-SB6-03	N	0.020 U
T-117-SB6-05	N	0.020 U
T-117-SB6-06	N	0.020 U
South ditch area sampling, 2003		
T-117-DS1	N	2.2 J
T-117-DS1-D[a]	N	1.6 J
T-117-DS2	N	4.6
Catch basin sampling, 2003		
T-117-CB1-SU	Y	2.6 J
T-117-CB1-SU-D[a]	Y	3.0 J
T-117-CB5	Y	50
T-117-CB5-OUT	Y	1.4
T-117-CB4-SU-01	Y	0.62
T-117-CB4-SU-02[a]	Y	0.89
T-117-CB6-SU	Y	0.14
Roadway soil sampling, 2003		
T-117-RW-01-01	N	0.38
T-117-RW-02-01	N	0.63
T-117-RW-02-02[a]	N	0.66
T-117-RW-03-01	N	0.62
T-117-RW-04-01	N	0.33
T-117-RW-05-01	N	0.52
T-117-RW-06-01	N	0.32
Supplemental soil boring sampling, 2004		
T-117-SB7-01	N	200 J
T-117-SB8-01	N	15
T-117-SB15-01[a]	N	11
T-117-SB9-01	N	100 J
T-117-SB10-01	N	100 J
T-117-SB11-01	N	70 J
T-117-SB12-01	N	37
T-117-SB13-01	N	5.0
T-117-SB14-01	N	31
Additional upland soil sampling, 2005		
T117-SB19-01	N	5.7
T117-SB19-02	N	0.90 U
T117-SB19-03	N	0.86 U
T117-SB19-04	N	0.020 U
T117-SB20-01	N	1.5
T117-SB20-02	N	0.93 U
T117-SB20-03	N	0.84 U
T117-SB20-04	N	0.020 U
T117-SB21-01	N	13
T117-SB21-02	N	0.92 U
T117-SB21-03	N	0.84 U
T117-SB21-04	N	0.019 J
T117-SB22-01	N	29
T117-SB22-02	N	1.9
T117-SB22-03	N	47
T117-SB22-04	N	2.4
T117-SB23-01	N	0.89 U
T117-SB23-02	N	0.85 U
T117-SB23-03	N	0.85 U
T117-SB24-01	N	810
T117-SB24-02	N	5.2
T117-SB24-03	N	0.87 U
T117-SB25-01	N	0.89 U
T117-SB25-02	N	1.8
T117-SB25-04	N	0.020 U
T117-SB25-05	N	0.020 U
T117-SB26-01	N	290
T117-SB26-02	N	0.88 U

Table B-6, cont.

SAMPLE ID	REMOVED	TOTAL PCBS
T117-SB26-03	N	0.96
T117-SB26-04	N	1.0
T117-SB26-05	N	0.067
T117-SB27-01	N	5.5
T117-SB27-02	N	0.86 U
T117-SB27-04	N	0.019 U
T117-SB28-01	N	690
T117-SB28-02	N	1.1
T117-SB28-03	N	3.0
T117-SB28-04	N	0.057
T117-SB29-01	N	2.9
T117-SB29-02	N	0.91 U
T117-SB29-03	N	0.1
T117-SB29-04	N	0.038
T117-SB30-01	N	0.92 U
T117-SB30-02	N	0.94 U
T117-SB30-03	N	0.14
T117-SB42-03[a]	N	0.1
T117-SB30-04	N	0.019 U
T117-SB31-01	N	5.4
T117-SB32-01	N	0.91 U
T117-SB32-02	N	0.19 U
T117-SB32-03	N	0.081
T117-SB32-04	N	0.019 U
T117-SB33-01	N	3.6
T117-SB33-02	N	0.88 U
T117-SB33-03	N	1.9
T117-SB33-04	N	0.39
T117-SB34-01	N	0.85 U
T117-SB43-01[a]	N	0.17
T117-SB34-02	N	0.11
T117-SB34-03	N	0.083
T117-SB34-04	N	2.8
T117-SB35-01	N	4.6
T117-SB35-02	N	9.8
T117-SB35-03	N	0.24
T117-SB35-04	N	0.15
T117-SB36-01	N	1.3
T117-SB36-02	N	20
T117-SB36-03	N	0.029
T117-SB36-04	N	0.46
T117-SB37-01	N	0.82 U
T117-SB37-02	N	0.3
T117-SB37-03	N	79
T117-SB37-04	N	0.17
T117-SB38-01	N	0.83 U
T117-SB38-02	N	0.18
T117-SB38-03	N	2.9
T117-SB38-04	N	0.061

SAMPLE ID	REMOVED	TOTAL PCBS
T117-SB39-01	N	1,200
T117-SB39-02	N	2.2
T117-SB39-03	N	0.020 U
T117-SB39-04	N	3.1
T117-SB40-01	N	460
T117-SB40-03	N	2.2
T117-SB40-04	N	0.03
T117-SB41-01	N	380
T117-SB41-02	N	0.96 U
T117-SB41-03	N	0.97 U
T117-SB41-04	N	0.020 U
T117-SB50-01	N	730
T117-SB50-02	N	13
T117-SB51-01	N	200
T117-SB52-01	N	53
South ditch upland soil, 2005		
T117-PD-1-01	N	78
T117-PD-1-02	N	0.4
T117-PD-1-03	N	0.068
T117-PD-2-01	N	1.5
T117-PD-2-02	N	0.034
T117-PD-2-03	N	0.019 U
T117-PD-3-01	N	0.23
T117-PD-3-02	N	0.020 U
T117-PD-3-03	N	0.020 U
T117-PD-4-01	N	24
T117-PD-4-02	N	180
T117-PD-4-03	N	21
T117-PD-5-01	N	130
T117-PD-5-02	N	9.2
T117-PD-5-03	N	18
T117-PD-6-01	N	1.64
T117-PD-6-02	N	0.42
T117-PD-6-03	N	0.042 J
T117-PD-7-01	N	4.1
T117-PD-7-02	N	0.02
T117-PD-7-03	N	0.0082
T117-PD-8-01	N	0.26
T117-PD-8-02	N	0.014
T117-PD-8-03	N	0.036
Shoreline upland soil, 2005		
T117-PS-1A-01	N	18
T117-PS-1A-02	N	20
T117-PS-2A-01	N	39
T117-PS-2A-02	N	43
T117-PS-2A-03	N	2
T117-PS-3-01	N	760
T117-PS-3-02	N	19
T117-PS-3-03	N	7.2

Table B-6, cont.

SAMPLE ID	REMOVED	TOTAL PCBS
T117-PS-3-04	N	2.7
T117-PS-4-01	N	960
T117-PS-4-02	N	1.9
T117-PS-4-03	N	0.28
T117-PS-4-04	N	0.26
T117-PS-5-01	N	530
T117-PS-5-02	N	76
T117-PS-5-03	N	12
T117-PS-5-04	N	14
T117-PS-6-01	N	1100
T117-PS-6-02	N	0.21
T117-PS-6-03	N	2.1
T117-PS-6-04	N	1
T117-PS-7-01	N	1400
T117-PS-7-02	N	4.8
T117-PS-7-04	N	110
T117-PS-8-01	N	290
T117-PS-8-02	N	29
T117-PS-8-03	N	1.2
T117-PS-8-04	N	0.25
T117-PS-10-01	N	44
T117-PS-10-02	N	50
T117-PS-10-03	N	200
T117-PS-10-04	N	0.081
T117-PS-12-01	N	17
T117-PS-12-02	N	11
T117-PS-12-03	N	0.034
T117-PS-12-04	N	0.091
T117-SB-15-01	N	4.8
T117-SB-15-02	N	0.051
T117-SB-15-03	N	0.03
T117-SB-15-04	N	0.020 U
T117-SB-15-05	N	0.17
T117-SB-15-06	N	0.020 U
T117-SB-15-07	N	0.020 U
T117-SB-15-08	N	0.062
T117-SB-16-01	N	31
T117-SB-16-02	N	0.36
T117-SB-16-03	N	0.19 U
T117-SB-16-04	N	0.024
T117-SB-16-05	N	0.052
T117-SB-16-06	N	0.020 U
T117-SB-16-07	N	0.020 U
T117-SB-16-08	N	0.020 U
T117-SB-17-01	N	240
T117-SB-17-02	N	88
T117-SB-17-03	N	0.17
T117-SB-17-04	N	0.074 U
T117-SB-17-05	N	0.088 U
T117-SB-17-06	N	0.067
T117-SB-17-07	N	0.019 U
T117-SB-17-08	N	0.019 U
T117-SB-17-09	N	0.47
T117-SB-18-01	N	290
T117-SB-18-02	N	9
T117-SB-18-03	N	22
T117-SB-18-04	N	19
T117-SB-18-05	N	1.6
T117-SB-18-06	N	0.094
T117-SB-18-07	N	0.05
Abandoned Utility Corridor Onsite Enterprises, Inc. 2004		
SP-1	Y	3.6
SP-2	Y	2.3
SP-3	Y	2.8
SP-4	Y	8.1
South building planter soil sampling, Onsite Enterprises, Inc. 2004		
PL-1	N	0.22
PL-2	N	0.26
PL-3	N	0.066
PL-4	N	0.030 J
Septic tank sampling, Windward Environmental LLC and Onsite Enterprises, Inc. 2005		
SEPTNK-1	N	13

[a] Field duplicate of sample in previous row.

[b] Total PCB concentration based on Aroclor 1260 only.

[c] sample collected from grid F2

J – result estimated

U – result undetected at reporting limit shown

Table B-7. Summary of pesticide results (mg/kg) from T-117 soil

Sample ID	Removed	4,4'-DDT	4,4'-DDD	4,4'-DDE	Gamma Chlordane
Site hazard assessment summary report, Parametrix, Inc., and SAIC 1991					
MW02-1.5	Y	14	NA	NA	NA
MW02-3.0	Y	23	NA	NA	NA
MW02-4.5	Y	0.28	0.014 J	NA	0.0048 J
MW03-1.5	Y	6.4	NA	NA	NA
MW03-3.0	Y	1.8	NA	NA	NA
MW03-4.0	Y	0.240 J	NA	NA	NA
MW03-4.5	N	0.099	0.011J	NA	NA

NA – not analyzed or data not available – result estimated

J – result estimated

APPENDIX C. DATA COLLECTION FORMS

Form 1
BORING LOG

No. ______________________

Dalton, Olmsted & Fuglevand, Inc.

DESCRIPTION OF SAMPLES, TESTS, AND INSTALLATION

Field Rep.:	Location:	
Drilling Co.:	Elevation (ft):	Ground Surface:
Driller:	Date Completed:	
Drill Type:	Weather:	
Size/Type Casing:	Hammer Type:	Sampler:

Sample No.	Type Sample Saved	Drill Action	Sample Depth (ft) From – To	Blows/ 6 inches	Sample Length (in.)	Time	Sample Description

Coding for Evidence of Oil

N – No visible evidence of oil in soil sample
ST – Visible staining in soil sample
C – Visible coating on soil grains
FO – Visible free oil in soil sample

Form 2
Protocol Modification Form

Project Name and Number: _____

Material to be Sampled: _____

Measurement Parameter: _____

Standard Procedure for Field Collection and Laboratory Analysis (cite reference):

Reason for Change in Field Procedure or Analysis Variation: _____

Variation from Field or Analytical Procedure: _____

Special Equipment, Materials, or Personnel Required: _____

Initiator's Name: _____ Date: _____

FC/PM: _____ Date: _____

QA Manager: _____ Date: _____

APPENDIX D. DATA MANAGEMENT

D.1 LABORATORY REPLICATES

Chemical concentrations obtained from the analysis of laboratory duplicates or replicates (two or more analyses on the same sample) will be averaged for a closer representation of the "true" concentration compared to the results of a single analysis. Averaging rules are dependent on whether the individual results are detects or non-detects. If all concentrations are detects for a given parameter, the values will simply be averaged arithmetically. If all concentrations are undetected for a given parameter, the minimum detection limit shall be reported. If the concentrations are a mixture of detects and non-detects, any two or more detected concentrations will be averaged arithmetically and detection limits ignored. If there is a single detected concentration and one or more non-detects, the detected concentration shall be reported. The latter two rules are applied regardless of whether the detection limits are higher or lower than the detected concentration.

D.2 SIGNIFICANT FIGURES AND ROUNDING

The laboratory reports results with various numbers of significant figures depending on the instrument, parameter, and the concentration relative to the reporting limit. The reported (or assessed) precision of each observation is explicitly stored in the project database by recording the number of significant figures assigned by the laboratory. Tracking of significant figures becomes important when calculating averages and performing other data summaries.

When a calculation involves addition, such as totaling PCBs or PAHs, the calculation can only be as precise as the least precise number that went into the calculation. Example (assuming two significant figures):

> 210 +19=229, but this would be reported as 230 because the trailing zero in the number 210 is not significant.

When a calculation involves multiplication or division, such as when carbon normalizing, all significant figures are carried through the calculation and then the total result is rounded at the end of the calculation to reflect the value used in the calculation with the fewest significant figures. Example:

> 59.9 x 1.2 = 71.88, to be reported as 72 because there are two significant figures in the number 1.2.

When rounding, if the number following the last significant figure is less than 5, the digit is left unchanged. If the number following the last significant figure is equal to or greater than 5, the digit is increased by 1.

D.3 CALCULATING TOTALS

Concentrations for analyte sums shall be calculated as follows:

- Total PCBs are calculated, in accordance with the methods of the Washington State Sediment Management Standards (SMS), using only detected values for seven Aroclor mixtures.[1] For individual samples in which none of the seven Aroclor mixtures are detected, total PCBs are given a value equal to the highest reporting limit of the seven Aroclors and assigned a "U" qualifier indicating the lack of detected concentrations.
- Total LPAHs, HPAHs, PAHs, and benzofluoranthenes are also calculated in accordance with the methods of the SMS. Total LPAHs are the sum of detected concentrations for naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, and anthracene. Total HPAHs are the sum of detected concentrations for fluoranthene, pyrene, benzo(a)anthracene, chrysene, total benzofluoranthenes, benzo(a)pyrene, indeno(1,2,3,-c,d)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene. Total benzofluoranthenes are the sum of the b (i.e., benzo(b)fluoranthene), j, and k isomers. Because the j isomer is rarely quantitated, this sum is typically calculated with only the b and k isomers. For samples in which all individual compounds within any of the three groups described above are undetected, the single highest reporting limit for that sample represents the sum.

D.4 MULTIPLE RESULTS FOR THE SAME ANALYTE

The following rules will be used to select a single value when multiple results are reported by the laboratory for a single analyte in a single sample:

- If all results are detected without qualification as an estimated value (i.e., J or E qualifier), then the result from the lowest analytical dilution is selected. If multiple, unqualified results from the same analytical dilution are available, the highest concentration is selected as a health protective approach
- If a mixture of estimated (i.e., J-qualified) and unqualified detected results are reported, then the unqualified detected result is selected
- If all results are reported as detected with estimated qualification, the "best result" will be selected using professional, technical judgment while giving preference to the result from the analysis with the lowest analytical dilution
- If both non-detected and detected results are reported, then the detected result is selected. If there are multiple detected results and one or more non-detect results, then the highest detected concentration is selected.
- If all results are reported as non-detected, then the lowest reporting limit is selected.

[1] Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260